

Cole Camp/ Hi Lonesome

Conservation Opportunity Area



Osage
Plains



Native tallgrass prairie once stretched continuously for miles in the Cole Camp/Hi Lonesome Conservation Opportunity Area. Today, significant patches remain, making this landscape a good candidate for restoration.

Jim Rathert, Missouri Department of Conservation

The Cole Camp/Hi Lonesome Conservation Opportunity Area (COA) provides an excellent opportunity to conserve prairie wildlife and high quality streams at a landscape scale. Over 1,500 acres of remnant prairie are currently owned and protected by The Nature Conservancy, Missouri Prairie Foundation and Missouri Department of Conservation. Privately owned remnant prairies adjoin the existing conservation network, and additional grasslands hold significant restoration potential. South Flat Creek and Spring Fork Creek are considered high priority streams for aquatic wildlife, including the blacknose shiner, a species of conservation concern.

Nineteen other species of conservation concern are recorded from the Cole Camp/Hi Lonesome COA, including federally and state listed species and numerous

prairie specialist plants and animals. Among these are Mead's milkweed, upland sandpiper, Henslow's sparrow and prairie mole crickets. The Cole Camp/Hi Lonesome COA is also one of the few remaining Missouri landscapes that support a population of greater prairie-chickens.

Success for the long-term preservation of tallgrass prairie landscapes and wildlife will require large-scale prairie protection and restoration by cooperating private and public land partners. Nonprofit organizations and state agencies are already working together on grassland management and preservation to maintain and increase the diversity of grassland plants and wildlife. Outreach efforts to private landowners will be needed to ensure conservation of remnant grasslands and to create suitable habitat for grassland and aquatic species within the landscape.

Cole Camp/Hi Lonesome Conservation Strategies:

- Increase nesting and brood rearing cover for greater prairie-chickens and other grassland birds.
- Restore riparian corridors to help maintain and enhance blacknose shiner populations.
- Increase public awareness and understanding of prairies, implement best management practices and promote outdoor recreation and ecotourism.
- Focus conservation, restoration and management efforts on the existing conservation network and with additional willing private landowners.
- Expand efforts to decrease exotic invasive plants like sericea lespedeza.



Jim Rathert, Missouri Department of Conservation

Coreopsis dots the landscape at Paint Brush Prairie Conservation Area. The Missouri Department of Conservation manages this prairie with alternate treatments of haying, resting and burning.

Priority Research and Inventory Needs

- Research the grassland insect community.
- Conduct landowner focus groups to determine interest, practicality and ability of landowners regarding the adoption of alternative land management practices such as prairie reconstruction, warm season grass conversions for grazing systems, prescribed burning and patch-burn/grazing.
- Conduct additional fish and mussel inventories in South Flat Creek and Spring Fork Creek to determine community composition and blacknose shiner populations.
- Use the Missouri Natural Heritage Database to track status of natural communities and species of concern; consolidate and update natural community inventories.

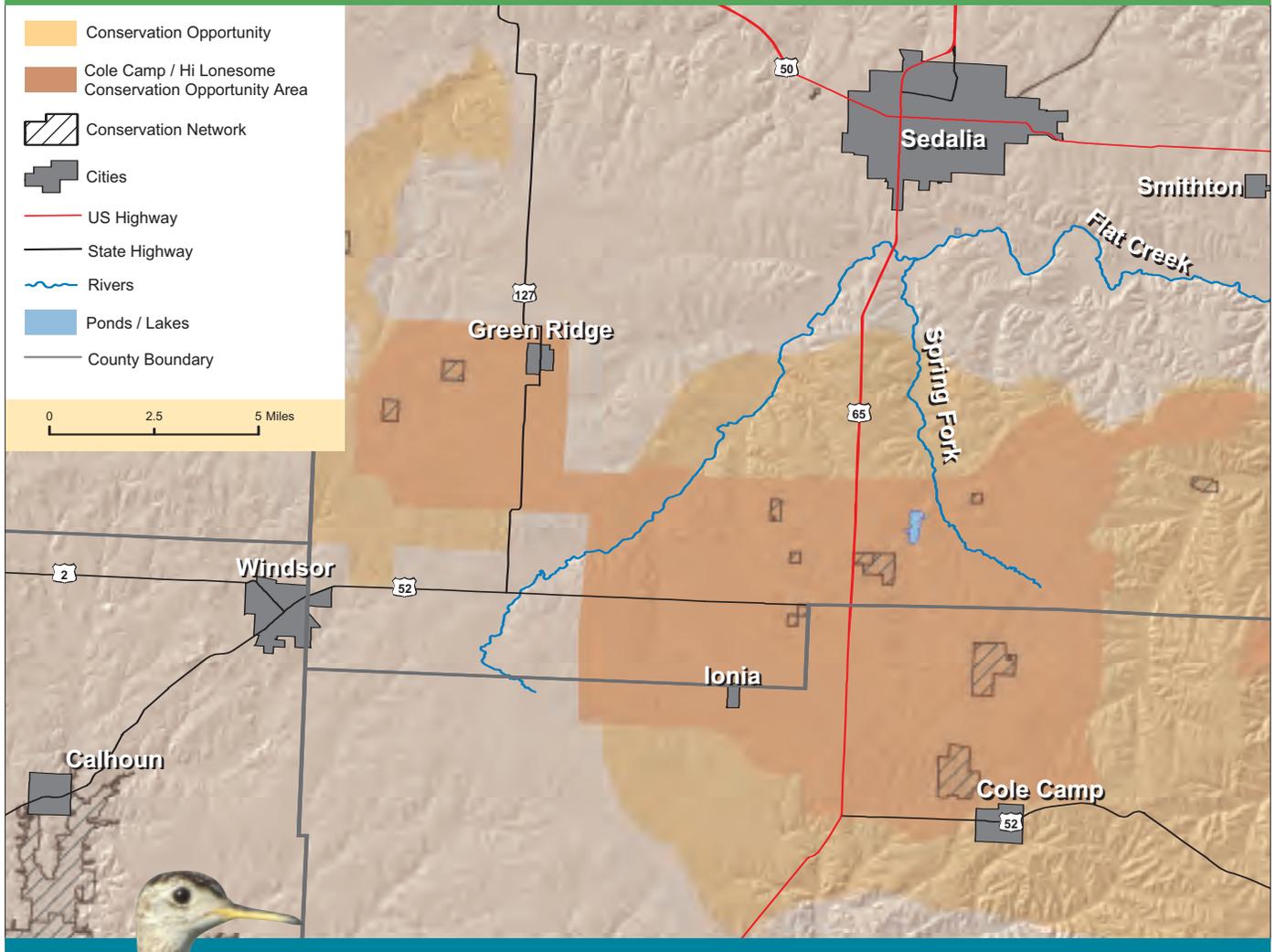
Conservation Partners

Existing: Missouri Prairie Foundation (MPF); Grasslands Coalition; The Nature Conservancy – Missouri Chapter (TNC); Cole Camp Betterment Association; U.S. Fish and Wildlife Service (USFWS); Missouri Department of Conservation (MDC)

Potential: Audubon Missouri; National Wild Turkey Federation (NWTf); Quail Unlimited (QU); University of Missouri Food Circles Project; Missouri Stream Teams; Missouri Conservation Heritage Foundation (MCHF); Natural Resources Conservation Service (NRCS)



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Some prairie birds have adapted well to less pristine environments; others have not. Upland sandpipers are declining in population. During courtship, upland sandpipers make a shrill wolf whistle while wheeling through the air on stiff wings.

Jim Rathert, Missouri Department of Conservation

Funding Sources

Existing: TNC annual budget; MPF annual budget; MDC annual budget; MDC State Wildlife Grants; MDC Private Lands Cost Share Program; NRCS Grassland Reserve Program; NRCS Wildlife Habitat Incentive Program; NRCS Environmental Quality Incentives Program; Farm Service Agency Conservation Reserve Program; USFWS Partners for Fish and Wildlife Program

Promising Future Sources: MDC State Wildlife Grants; MDC Wildlife Diversity Funds; MDC Landowner Incentive Program; QU Quail Habitat Incentive Funds; MCHF Stream Stewardship Trust Funds; MCHF grants; Missouri Bird Conservation Initiative Grants; National Fish and Wildlife Foundation grants; Missouri Department of Natural Resources Recreational Trails Program; NWTF Wild Turkey Super Fund

Existing Conservation Network

Hi Lonesome Prairie Conservation Area; Mora Conservation Area; Grandfather Prairie Conservation Area; Paint Brush Prairie Conservation Area and Natural Area; W.R. Kern Memorial Conservation Area; J.N. Kern Memorial Wildlife Area; Bruns Tract; Goodnight-Henry Prairie; Friendly Prairie; Drover's Prairie

Surveying for Mead's Milkweed



Mead's milkweed surveys on Paint Brush Prairie Conservation Area involve survey crews spaced one meter apart along a 50-foot rope. As they walk along, the crew marks each plant they find. Periodic surveys, like this annual Mead's milkweed survey, are useful to monitor the health of plants, animals and natural communities.

Missouri Department of Conservation

Conservation Challenges

Once nearly all tallgrass prairie, the Cole Camp/Hi Lonesome COA today is a mixture of fescue pasture, small prairie remnants and cropland. Much of the existing forested areas are comprised of invasive tree species encroaching in areas that were historically prairie. Trees and shrubs have also encroached along fencerows and stream corridors, further fragmenting the grassland vista and serving as predator habitat. Additional threats to this landscape include continued habitat conversion to

cool season pasture and cropping systems, expanding urban development south of Sedalia, the spread of invasive and exotic species (such as sericea lespedeza) and siltation and agricultural runoff into streams. Potential challenges to conservation success include gaining private landowner acceptance and participation, improving agency and landowner relationships, understanding overlapping initiatives, lack of program continuity and a lack of funding and staff time.

To learn more about the Cole Camp/Hi Lonesome Conservation Opportunity Area, please contact:



Missouri Department of Conservation
Wildlife Division
P.O. Box 180
Jefferson City, MO 65102-0180

Greater Prairie-Chicken

Recovery Initiative



Grasslands Coalition Focus Areas



Greater Prairie-chicken



Prairie-chicken Lek



Native Prairie

As a result of continuing population declines throughout the state, the Missouri Department of Conservation (MDC) added the greater prairie-chicken to Missouri’s endangered species list in 1999.

Greater prairie-chickens once thrived on the vast tracts of open grassland that blanketed a third of the state. Now just a fraction of a percent of native prairie remains. The greater prairie-chicken is just one of many prairie species imperiled by the loss of tallgrass prairie habitats.

The key to conserving prairie-chickens and other tallgrass prairie species is cooperative land management across prairie landscapes. Conservation at the scale needed will necessarily involve many partners, including the residents of Missouri communities that share a common geography with remnant tallgrass prairie habitats and the remaining prairie-chicken populations.

The Grasslands Coalition, a public/private partnership committed to the conservation of Missouri’s native grasslands, is refocusing conservation attention on recovering this symbol of healthy tallgrass prairie ecosystems.

Working together, we can recover the prairie-chicken in Missouri. The Grasslands Coalition invites your input and participation in this conservation project.

Recovery Goal: Remove greater prairie-chickens from the state’s endangered species list.

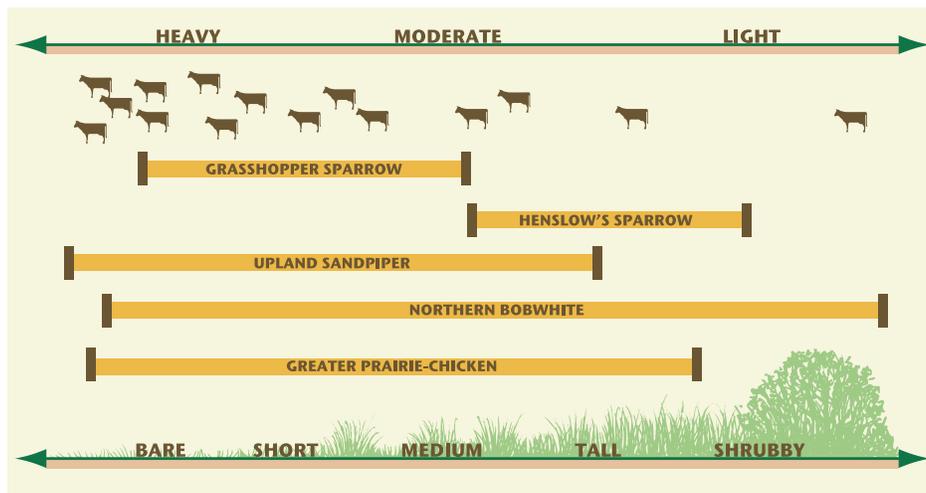
- Recovery will be considered accomplished when Missouri has a statewide population of at least 3,000 birds throughout the Grasslands Coalition Focus Areas for 10 years.

Grassland Habitat Goal: Each prairie-chicken population will require a minimum of 4,000 acres of grassland habitat within a 10,000 acre landscape.

- The 4,000 acres of managed grassland bird habitat should include a protected 2,000 acre core centered on prairie chicken leks and scattered tracts making up the remaining 2,000 acres. At least half of these scattered tracts should be greater than 100 acres.

Targeted Landscape	Targeted Species
Native prairie/wildlife friendly grassland complexes	Greater Prairie-chicken, Grasshopper Sparrow, Henslow’s Sparrow, Upland Sandpiper
Other Species that will Benefit	
Eastern Prairie Fringed Orchid, Western Prairie Fringed Orchid, Oklahoma Sedge, <i>Carex bicknellii</i> , <i>Carex missouriensis</i> , <i>Carex opaca</i> , Wolf’s Spike Rush, Mead’s Milkweed, American Burying Beetle, Prairie Mole Cricket, Regal Fritillary, Grassland Crayfish, Northern Crawfish Frog, Slender Glass Lizard, Bullsnake, Ornate Box Turtle, Topeka Shiner, Bobolink, Bell’s Vireo, Scissor-tailed Flycatcher, Dickcissel, Eastern Meadowlark, Northern Harrier, Sedge Wren, Loggerhead Shrike, Swainson’s Hawk, Hispid Cotton Rat, Prairie Vole, Black-tailed Jack Rabbit	

Grassland birds require a wide variety of plant heights and densities ranging from bare ground to tall grasses. One method used to produce this structural diversity in grasslands is called patch burn grazing. Patch burn grazing mimics the historical interaction of two ecological processes that shaped native prairies—fire and grazing. Each year a third of the pasture is burned. The lush regrowth focuses grazing within the burned area. The burned unit shifts from year to year, providing varied structure throughout the managed area.



Modified from Knopf (1996)

Desired Change	Proposed Monitoring
↑ Increasing numbers of prairie-chickens	Population survey of prairie-chickens annually
↓ Decreased fragmentation in prairie landscapes	Periodic assessment of land cover using satellite imagery or aerial photography
↑ Increased acres of prescribed fire management, rest-rotation and patch-burn grazing	Acres benefited as reported by MDC Private Lands program monitoring
↓ Decreased acres of grassland dominated by fescue	Periodic assessment of land cover using satellite imagery or aerial photography/ground truthing
↑ Increased acres of cropland restored to native grasses and prairie forbs or wildlife friendly grasses	Periodic assessment of land cover using satellite imagery or aerial photography
↓ Declining amount of sericea lespedeza due to active control methods	Field visits and regular site evaluations
↑ Improved native plant community composition on remnant prairies	Vegetation sampling to detect changes in conservative prairie plants at 3-year intervals
↑ Increased community awareness and involvement in prairie conservation	Human dimensions survey and workshops

This initiative represents just one aspect of tallgrass prairie conservation. The Grasslands Coalition seeks long-term protection of prairie landscapes including the full array of native natural communities and species.

To learn more, please contact:



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